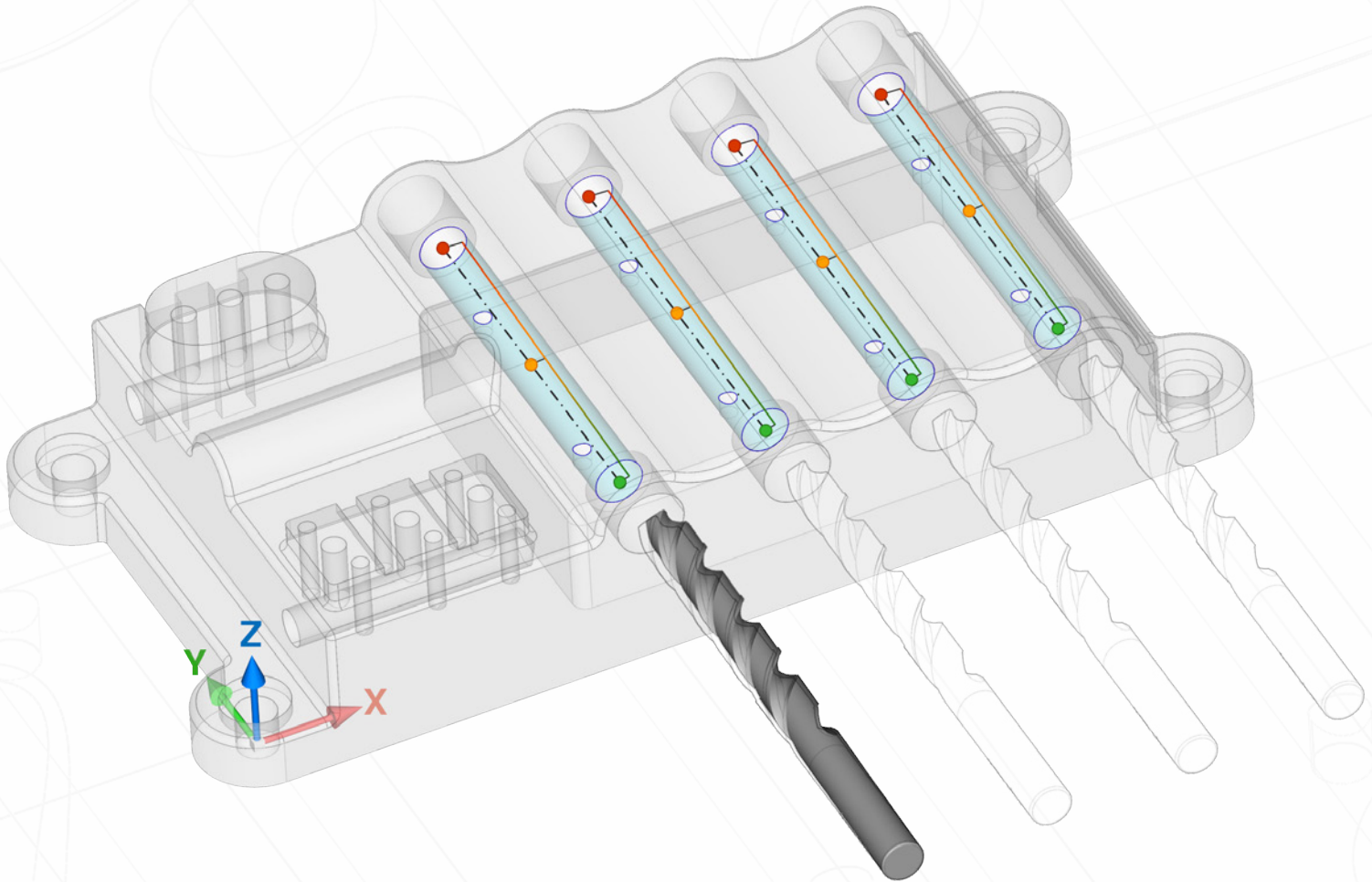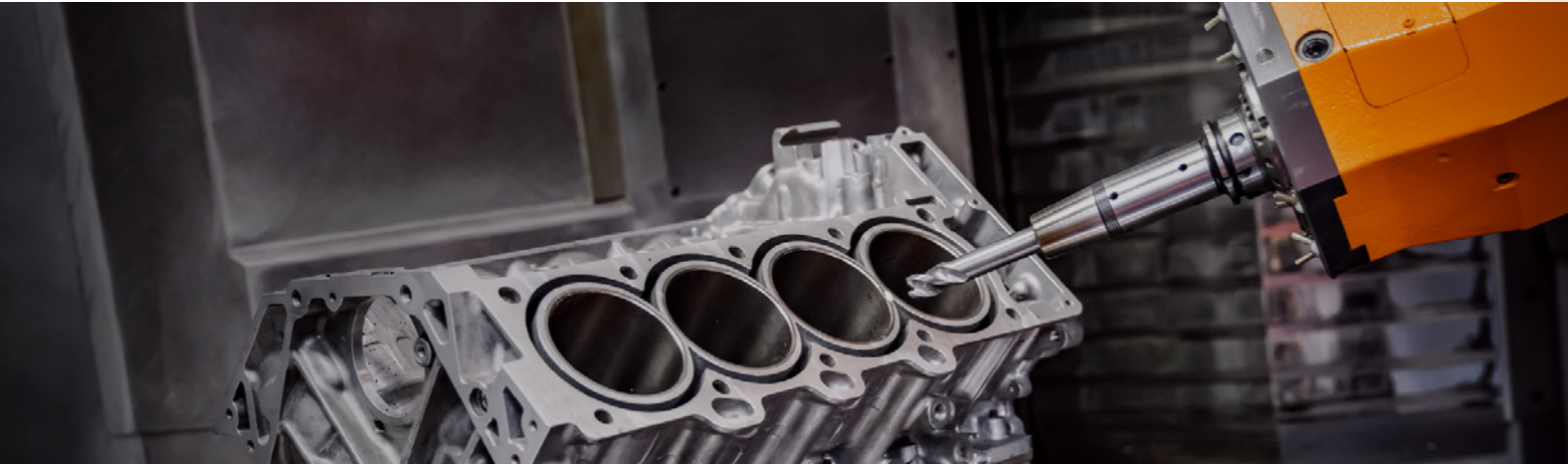# EVOLVE Manufacturing

EVOLVE Suite   Model-Based Family of Software

EVOLVE Manufacturing

Part of the EVOLVE Software Suite
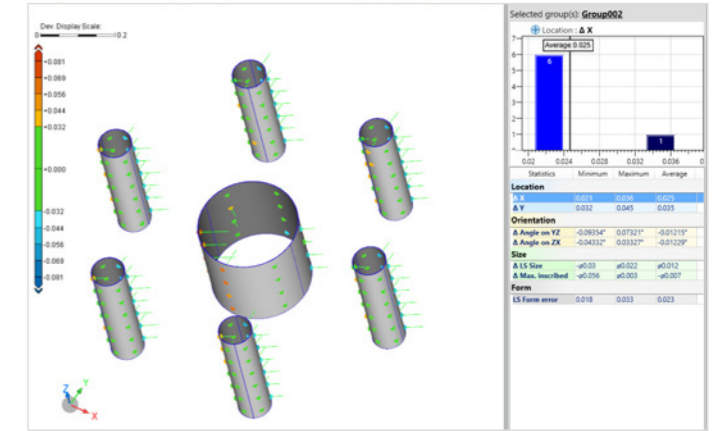
The Manufacturing Process

1 Grouping

EVOLVE Manufacturing groups part features to help **identify possible manufacturing issues**.
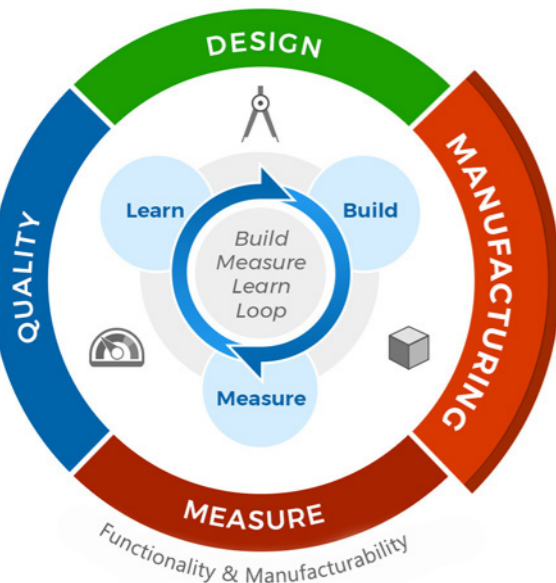
The groups are determined by different manufacturing steps such as operations, tools, alignments, or are imported from CAM.

EVOLVE Suite

The EVOLVE software suite from KOTEM optimizes design, production and inspection processes enabling manufacturers to shorten product design & development time, improve quality, and reduce costs through improved efficiency.
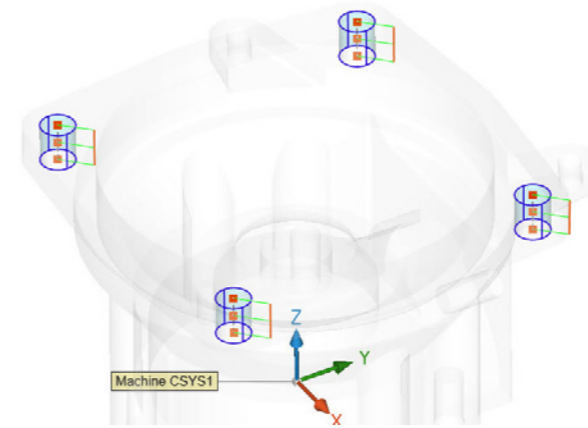
With its fully automatic GD&T evaluation of design tolerances, an annotated digital three-dimensional (3D) model of a product serves as the authoritative information source throughout a product's lifecycle in a Model Based Enterprise (MBE).

2 Alignments

Manufacturing alignments **simulate part fixturing** during machining operations.

Features and groups of features are evaluated in their manufacturing alignments.

EVOLVE Manufacturing

EVOLVE Manufacturing graphically **compares measurement results** relative to design or manufacturing datums, **identifies error characteristics** and **simulates how they impact GD&T tolerances** based on changes. Understand why a part failed during inspection and which corrective actions can correct and **keep your manufacturing processes under control**.

EVOLVE Manufacturing is a powerful 2D/3D tool which uses the same measurement point cloud data as the GD&T evaluation to **monitor** and **improve manufacturing operations**. This allows correlation of the GD&T results between design and manufacturing coordinate systems.

3 Error Characteristics

Point deviations from nominal are separated into 4 error categories:

Location, Orientation, Size and **Form**.

These categories can be used in **analysis** individually, as groups, or all at once.

4 Corrective Action Analysis

Powerful **"What-if" simulations** based on observed deviations allow prediction of the effects of applied corrective actions on the GD&T results.
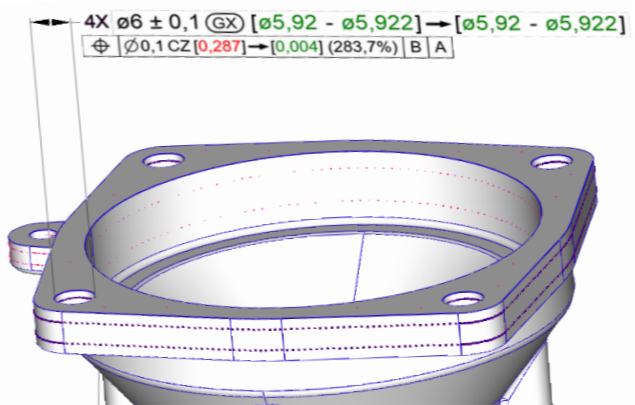
EVOLVE **Design** helps designers apply and verify GD&T (GPS) specifications by proofing the callouts and providing guidance directly from the standards.

EVOLVE **SmartProfile** provides guidance for adding or modifying part design tolerances. It combines measurement data with the CAD model of the part and automatically runs GD&T (ASME) and GPS (ISO) evaluations.

EVOLVE **SPC** is a full statistical process control software solution usable as a standalone product with existing measuring systems or integrated into the EVOLVE Suite.

KOTEM
The leader in dimensional analysis software

KOTEM is the worldwide leading developer of software for dimensional analysis. The EVOLVE suite of advanced GD&T and fitting software helps manufacturers integrate quality inspection data with their manufacturing and design workflows. KOTEM is a Quality Vision International company.

QVI® (Quality Vision International) is the world's largest vision metrology company. Founded in 1945, QVI is the world leader in the application of optical, electronic and software technologies into vision and multisensor measuring systems for manufacturing quality control. To learn more about the EVOLVE suite of software solutions, go to:

www.kotem.com/evolve-suite

EVOLVE is fully compliant with all internationally accepted GD&T Standards:
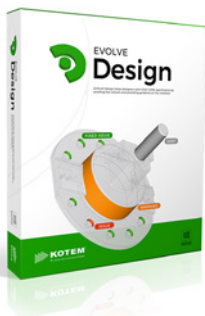
| ISO 1101 | ASME Y14.5M-1994 | ASME Y14.5-2009 | ASME Y14.5-2018 |

EVOLVE Suite

Check out the other members of our model based family of software:

EVOLVE **Design** helps designers apply and verify GD&T (GPS) specifications by proofing the callouts and providing guidance directly from the standards.

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